

Appl. No. 10/644,441
Amdt. Dated: December 7, 2005
Reply to Office action of September 28, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A propeller shaft assembly comprising:

a tubular member having an outer surface defined by an invariable outside diameter and an inner surface defined by an invariable inside diameter; and

~~a connecting member fixed to each end of the tubular member; and~~

a tubular support member ~~having a generally uniform outer diameter along its entire length is fixed disposed~~ within the tubular member, ~~the support member comprising a rigid foamed plastic extending a first length (L1) within the tubular member and~~ having an inner surface defined by an invariable inside diameter, the inner surface forming a cylindrical cavity within the tubular member, and an outer surface defined by an invariable outside diameter, the outer surface engaging an interior the inner surface of the tubular member to increase the a bending frequency of the propeller shaft assembly.
2. (Currently Amended) An assembly according to claim 1 wherein said tubular support member comprises an open-cell ~~foamed plastic~~ foam impregnated with a resin or cement.
3. (Cancelled)
4. (Currently Amended) An assembly according to claim 1 wherein said tubular support member includes a plurality of openings formed along ~~the first its~~ its length (L1) for reducing the weight of the tubular support member.
5. (Currently Amended) An assembly according to claim 2 wherein said open-cell ~~foamed plastic~~ foam is generally flexible before being impregnated with the resin or cement.
6. (Original) An assembly according to claim 1 wherein said tubular member comprises metal or reinforced plastic.

Appl. No. 10/644,441
Amdt. Dated: December 7, 2005
Reply to Office action of September 28, 2005

7. (Currently Amended) An assembly according to claim 1 wherein said tubular member has a second length (L2) and the ratio of L1/L2 is less than 1.0 greater than a length (L1) of said tubular support member.

8. (Canceled)

9. (Currently Amended) A ~~power~~ torque transmission shaft comprising:

a metal tube having ~~a joint element or stub shaft fixed to each end thereof~~ an outer surface defined by an invariable outside diameter and an inner surface defined by a invariable uniform inside diameter; and

a tubular support member ~~having a generally uniform outer diameter along its entire length~~ is co-axially located within said metal tube and having an inner surface defined by an invariable inside diameter, the inner surface forming a cylindrical cavity within said metal tube, and an outer surface defined by an invariable outside diameter, the outer surface engaging an interior surface of said metal tube, said tubular support member comprising a rigid foamed plastic extending along a length of said metal tube.

10. (Currently Amended) A ~~power~~ torque transmission shaft according to claim 9 wherein the support member has a first length (L1) and said tube has a second length (L2) and the ratio L1/L2 is less than 1.0.

11. (Currently Amended) A ~~power~~ torque transmission shaft according to claim 9 wherein the support member includes a plurality of openings formed along ~~the~~ a first length (L1) for reducing the weight of the support member.

12. (Currently Amended) ~~An assembly~~ A torque transmission shaft according to claim 9 wherein said support member comprises an open-cell foamed plastic impregnated with a resin or cement.

13. (Currently Amended) ~~As assembly~~ A torque transmission shaft according to claim 12 wherein said open-cell foamed plastic is generally flexible before being impregnated with the resin or cement.

Appl. No. 10/644,441
Amdt. Dated: December 7, 2005
Reply to Office action of September 28, 2005

14. (Currently Amended) A method of producing a rigid power torque transmission shaft comprising:

providing a metal or reinforced plastic tube having an outer surface defined by an invariable outside diameter and an inner surface defined by an invariable inside diameter; and

introducing a tubular support member having a generally uniform outer diameter along its entire length co-axially within said tube, said tubular support member having an inner surface defined by an invariable inside diameter, the inner surface forming a cylindrical cavity within said tube, and an outer surface defined by an invariable outside diameter to engage an interior surface of said tube, said support member comprising a rigid foam plastic extending along a length of the tubular member.

15-19. (Canceled)

20. (Previously Presented) An assembly according to claim 1 wherein said tubular member has a thickness generally less than 8 mm.

21. (Currently Amended) An assembly according to claim 1 wherein the outer diameter of the said tubular member has an outer diameter is generally greater than 40 mm and is generally less than 300 mm.

22. (Canceled)

23. (Currently Amended) A power torque transmission shaft according to claim 9 wherein the support member has a first length (L1) and said tube has a second length (L2) and the ratio L1/L2 is greater than 0.25.

24. (New) An assembly according to claim 1 further comprising a connecting member fixed to each end of the tubular member.

25. (New) An assembly according to claim 1 wherein the outside diameter of the tubular support member is greater than or equal to the inside diameter of the tubular member such that the tubular support member engages the tubular member via interference fit.

Appl. No. 10/644,441
Amdt. Dated: December 7, 2005
Reply to Office action of September 28, 2005

26. (New) An assembly according to claim 7 wherein the ratio $L1/L2$ is not less than 0.25 and not greater than 1.0.
27. (New) An assembly according to claim 1 wherein the tubular support member has a generally uniform thickness along its length.
28. (New) A torque transmission shaft according to claim 9 further comprising a joint element or stub shaft fixed to each end of said metal tube.
29. (New) A torque transmission shaft according to claim 9 wherein the outside diameter of the tubular support member is greater than or equal to the inside diameter of the tubular member such that the tubular support member engages the tubular member via interference fit.
30. (New) A torque transmission shaft according to claim 9 wherein the tubular support member has a generally uniform thickness along its length.
31. (New) A method of producing a torque transmission shaft according to claim 14 wherein the outside diameter of the tubular support member is greater than or equal to the inside diameter of the tubular member such that the tubular support member is introduced via interference fit.
32. (New) A method of producing a torque transmission shaft according to claim 14 wherein the tubular support member has a generally uniform thickness along its length.